

AMENDMENTS TO THE CLAIMS

1 1. (currently amended) A continuous renal replacement therapy device adapted to be
2 worn on a portion of the body of a patient, comprising:

3 at least one dialyzer that utilizes ~~a plurality of dialyzers that utilize~~ dialysate to
4 remove impurities from the blood of the patient; and

5 a microprocessor adapted to control a rate that excess fluid is removed from said
6 dialysate while said at least one dialyzer is utilizing the dialyzer to remove impurities from the
7 blood; and

8 at least one sorbent device for regenerating the dialysate.

1 2. (currently amended) The continuous renal replacement therapy device of claim 1,
2 wherein the at least one dialyzer is ~~plurality of dialyzers are~~ connected in series.

1 3. (currently amended) The continuous renal replacement therapy device of claim 1,
2 wherein at least one of the dialyzers comprises ~~the dialyzers comprise~~ a plurality of cylindrical
3 hollow fibers, wherein the patient's blood is circulated within the hollow fibers in a first
4 direction and wherein the dialysate is circulated around at least a portion of the exterior walls of
5 the hollow fibers in a second direction.

1 4. (original) The continuous renal replacement therapy device of claim 3, wherein
2 the exterior walls of the hollow fibers are semiporous so that impurities can be moved from the
3 blood and into the dialysate.

1 5. (currently amended) The continuous renal replacement therapy device of claim 1,
2 wherein each of the at least one dialyzers have plurality of dialyzers has a flexible casing
3 adapted to conform to the body contour of the patient.

1 6. (currently amended) The continuous renal replacement therapy device of claim 1,
2 wherein the number of dialyzers in the at least one dialyzer ~~plurality of dialyzers~~ may be varied
3 to reflect different dialysis prescriptions

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1 7. (currently amended) The continuous renal replacement therapy device of claim 1,
2 further including a blood inlet tube leading into a first dialyzer of the at least one dialyzer series
3 ~~of dialyzers~~ and a blood outlet tube leading out of a last dialyzer of said at least one dialyzer
4 such that the at least one dialyzers are connected in series. ~~in the series of dialyzers.~~

1 8. (original) The continuous renal replacement therapy device of claim 7, wherein
2 the blood inlet tube includes a side port for the infusion of anticoagulants into the blood.

1 9. (original) The continuous renal replacement therapy device of claim 8, wherein
2 the anticoagulant is chosen from the group consisting of: heparin, prostacyclin, low molecular
3 weight heparin, hirudin and sodium citrate.

1 10. (currently amended) The continuous renal replacement therapy device of claim 7,
2 wherein the blood outlet tube includes a side port adapted for an infusion of at least one additive.
3 ~~for the infusion of additives.~~

1 11. (currently amended) The continuous renal replacement therapy device of claim
2 10, wherein the at least one additive can be ~~additives are~~ pumped into the blood ~~by from~~ a
3 plurality of additive pumps.

1 12. (currently amended) The continuous renal replacement therapy device of claim
2 11, wherein the rate of infusion of said at least one additive ~~each additive~~ is controlled
3 electronically.

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1 13. (currently amended) The continuous renal replacement therapy device of claim
2 10, wherein said at least one additive is ~~the additives~~ are chosen from the group consisting of:
3 sodium citrate, calcium, potassium and sodium bicarbonate.

1 14. (currently amended) The continuous renal replacement therapy device of claim 1,
2 wherein the at least one sorbent device comprises ~~is a~~ plurality of sorbent devices connected in
3 series.

1 15. (currently amended) The continuous renal replacement therapy device of claim 1,
2 wherein the at least one sorbent device comprises ~~is a~~ plurality of sorbent devices connected in
3 parallel.

1 16. (currently amended) The continuous renal replacement therapy device of claim 1,
2 wherein the at least one dialyzer ~~plurality of dialyzers are~~ connected in parallel.

1 17. (currently amended) The continuous renal replacement therapy device of claim 1,
2 wherein at least one of said at least one dialyzer comprises the dialyzers comprise a plurality of
3 parallel sheets of semiporous material, wherein the patient's blood is circulated on one side of
4 the parallel sheets in a first direction and wherein the dialysate is circulated on the other side of
5 the parallel sheets in a second direction.

1 18. (currently amended) A continuous renal replacement therapy device adapted to be
2 worn on a portion of the body of a patient, comprising:

3 at least one dialyzer that utilizes dialysate to remove impurities from the blood of
4 the patient; and

5 a microprocessor adapted to control a rate that excess fluid is removed from
6 dialysate while said at least one dialyzer is utilizing the dialysate to remove impurities from the
7 blood; and

8 a plurality of sorbent devices for regenerating the dialysate wherein a first sorbent
9 device contains a first sorbent and a second sorbent device that contains a second sorbent; said
10 first sorbent and said second sorbent being different compounds.

1 19. (currently amended) The continuous renal replacement therapy device of claim
2 18, wherein the plurality of sorbent devices are connected at least in series.

1 20. (original) The continuous renal replacement therapy device of claim 18, wherein
2 each of the sorbent devices has a flexible casing adapted to conform to the body contour of the
3 patient.

1 21. (original) The continuous renal replacement therapy device of claim 18, wherein
2 the number of sorbent devices may be varied to reflect different dialysis prescriptions.

1 22. (original) The continuous renal replacement therapy device of claim 18, further
2 including a regenerated dialysate inlet tube leading into the at least one dialyzer and a spent
3 dialysate outlet tube leading out of the at least one dialyzer.

a (1 23. (currently amended) The continuous renal replacement therapy device of claim
2 22, wherein the regenerated dialysate inlet tube includes a side port for an infusion of at least one
3 additive~~the infusion of additives~~.

1 24. (currently amended) The continuous renal replacement therapy device of claim
2 23, wherein the at least one additive is ~~additives are~~ pumped into the dialysate from a plurality of
3 additive reservoirs.

1 25. (currently amended) The continuous renal replacement therapy device of claim
2 24, wherein the ~~wherein the~~ rate of infusion of each one of the at least one additive is controlled
3 electronically.

1 26. (currently amended) The continuous renal replacement therapy device of claim
2 23, wherein the at least one additive is ~~additives are~~ chosen from the group consisting of: sodium
3 citrate, calcium, potassium and sodium bicarbonate.

1 27. (original) The continuous renal replacement therapy device of claim 22, wherein
2 the spent dialysate tube leads into the plurality of sorbent devices and the regenerated dialysate
3 tube leads out of the plurality of sorbent devices.

1 28. (currently amended) The continuous renal replacement therapy device of claim
2 19, wherein the series of sorbent devices comprises ~~is-a~~ series of replaceable cartridges.

1 29. (currently amended) The continuous renal replacement therapy device of claim
2 28, wherein the replaceable cartridges include at least one of: activated charcoal, urease,
3 zirconium phosphate, hydrous zirconium oxide and activated carbon.

1 30. (currently amended) The continuous renal replacement therapy device of claim
2 18, wherein the at least one sorbent device comprises ~~is-a~~ plurality of sorbent devices connected
3 in parallel.

1 31. (currently amended) The continuous renal replacement therapy device of claim
2 18, wherein the at least one dialyzer comprises ~~is-a~~ plurality of dialyzers connected in parallel.

1 32. (currently amended) The continuous renal replacement therapy device of claim
2 18, wherein the at least one dialyzer comprises ~~is-a~~ plurality of dialyzers connected in series.

1 33. (currently amended) The continuous renal replacement therapy device of claim
2 32, wherein at least one of the at least one dialyzer comprises ~~the dialyzers comprise~~ a plurality
3 of parallel sheets of semiporous material, wherein the patient's blood is circulated on one side of

- 4 the parallel sheets in a first direction and wherein the dialysate is circulated on the other side of
- 5 the parallel sheets in a second direction.
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